**DIRECT TESTIMONY OF**

**MARK C. FURTICK, P.E.**

**ON BEHALF OF**

**DOMINION ENERGY SOUTH CAROLINA, INC.**

**DOCKET NO. 2020-63-E**

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.**

A. My name is Mark C. Furtick. My business address is 220 Operation Way, Cayce, South Carolina. I am the Manager of Renewable Energy Programs and Technical Services for Dominion Energy South Carolina, Inc. ("DESC").

**Q. BRIEFLY STATE YOUR EDUCATION, BACKGROUND, AND EXPERIENCE.**

A. I am a graduate of the University of South Carolina with a Bachelor of Science degree in Mechanical Engineering and I am licensed in South Carolina as a Professional Engineer. I began my utility career in 1986 and have worked at various positions in Electric Operations at DESC,[1] including working as the Field Engineer in Power Delivery Operations with responsibility for construction, operations, and maintenance for the Northern Division of DESC's transmission system. I also worked as the Local Operations Manager with responsibility for construction, operations and maintenance of the DESC Distribution system for a

[1] South Carolina Electric & Gas Company changed its name to DESC in April of 2019. For ease of reference, I refer to the company as DESC for the period before the name change as well.

region of Columbia. I also worked as the Manager of Materials, Equipment, and Standards with the engineering responsibility for equipment standards and approval, as well as construction and work standards for DESC's transmission and distribution systems (including developing DESC's Standby Generator Interconnection Standards). In 2015, I assumed my current role as Manager of Renewable Energy Programs and Technical Services where I have responsibility for Customer Scale Renewable programs.

**Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA (THE "COMMISSION")?**

A. Yes. I previously provided testimony to the Commission in Docket No. 2020-2-E.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. The purpose of my testimony is to provide background to the Commission regarding the retail service contract between DESC and Bridgestone Americas Tire Operations, LLC ("BATO") and detail the operating characteristics of BATO's proposed solar generating facility ("Generating Facility") that bring the Generating Facility within the jurisdiction of the South Carolina Generator Interconnection Procedures, Forms, and Agreements (the "South Carolina Standard").

**Q. PLEASE BRIEFLY EXPLAIN THE RETAIL SERVICE CONTRACT BETWEEN DESC AND BATO.**

A. BATO is a large industrial customer that is connected to DESC's transmission system—which contains transmission assets that comprise and affect the Bulk Electric System. DESC supplies all of BATO's retail electric power supply needs pursuant to an Electric Service Contract, dated January 12, 2009, and approved by the Commission in Order No. 2009-102 (the "Service Contract"). The Service Contract contains specific provisions agreed to by both parties, and incorporates by reference DESC's General Terms and Conditions (the "Terms and Conditions") approved by the Commission. For the period of January 1, 2019, to June 1, 2020, BATO's peak load under the Service Contract was [redacted].

**Q. PLEASE BRIEFLY EXPLAIN BATO'S OBLIGATIONS UNDER THE SERVICE CONTRACT AS THEY RELATE TO THE GENERATING FACILITY.**

A. At a high level, the Terms and Conditions contain provisions related to things such as character of service, installation, and customer equipment. However, Section III.G of the Terms and Conditions provides that:

> Electricity supplied by [DESC] shall not be electrically connected with any other source of electricity without reasonable written notice to [DESC] and agreement by the parties of such measures or conditions, if any, as may be required for reliability of both systems.

As such, the Terms and Conditions expressly contemplate BATO's proposed operation of the Generating Facility. The electricity supplied by DESC would be electrically connected to another source of electricity (the Generating Facility), and DESC and the Generating Facility would serve BATO's load via a confluence of power from both systems. The Terms and Conditions mandate that the Generating Facility cannot be operated until the parties come to an agreement on the measures required to ensure that the "reliability of both systems" (BATO's and DESC's) is not adversely affected.

**Q. WITH REGARD TO THE GENERATING FACILITY, DID DESC AND BATO COME TO THE AGREEMENT THAT IS REQUIRED BY THE SERVICE CONTRACT?**

A. Initially, the parties did come to an agreement as to the measures that would be required to ensure the reliability of each system would not be adversely affected. Indeed, the parties agreed that BATO must submit an interconnection request to DESC, which DESC would process in accordance with the South Carolina Standard. This is evidenced by the interconnection request that BATO submitted for the Generating Facility in February of 2018. However, BATO has apparently reversed course. Although I am not an attorney, it seems that BATO's operation of the Generating Facility would now violate the Service Contract because the parties no longer have an agreement as to the measures required to ensure the reliability of DESC's and BATO's systems—specifically, BATO has

reversed course on the prior agreement that the Generating Facility is subject to the South Carolina Standard.

**Q. IS IT YOUR TESTIMONY THAT THE GENERATING FACILITY IS SUBJECT TO THE SOUTH CAROLINA STANDARD?**

A. Yes. Section 1.1.1 of the Procedures within the South Carolina Standard mandates that the South Carolina Standard governs "the interconnection and parallel operation of Generating Facilities with Utility Systems in South Carolina." (emphasis added). As explained in greater detail below, the Generating Facility fulfills both of these requirements. Despite this fact, BATO continues to argue that neither the Commission nor the Federal Energy Regulatory Commission ("FERC") has jurisdiction over the Generating Facility.

**Q. PLEASE EXPLAIN WHAT IT MEANS TO OPERATE IN "PARALLEL" UNDER THE SOUTH CAROLINA STANDARD.**

A. As an initial matter, let me point out that, to my knowledge, this is the first time that a generator seeking interconnection with DESC has claimed it will not operate in parallel with the DESC system. It appears that BATO is simply advancing this novel argument to evade the entire South Carolina Standard—including its reliability measures and study requirements. In reality, parallel operation is a straight-forward concept which occurs when generation that is connected to the DESC system—directly or indirectly—is operated in a way that

is able to influence the DESC system, even if momentarily. In contrast, a stand-alone system, which may be referred to as a "non-parallel" system, would be considered a system that is completely separate from the DESC system, with no possibility whatsoever of (i) flowing power back to the DESC system, (ii) flowing power in conjunction with the DESC system, or (iii) disturbing operation of the DESC system in any way.

**Q. ON PAGE 7, LINES 11 AND 12 OF BATO WITNESS MCGAVRAN'S DIRECT TESTIMONY, HE STATED HIS BELIEF THAT THE GENERATING FACILITY "IS NOT CONNECTED IN PARALLEL WITH THE UTILITY AND IS IN FACT A SERIES CONNECTION WITH [BATO]." DO YOU AGREE?**

A. No. This is the fundamental disagreement that lies at the heart of this matter. BATO attempts to contort the South Carolina Standard by implying the South Carolina Standard draws a distinction between a "series" connection and a "parallel" connection. However, as discussed in greater detail by DESC Witness Xanthakos, this is simply another unsupported argument advanced by BATO to avoid its obligations under the South Carolina Standard. To be clear, the South Carolina Standard does not refer to the type of connection, but simply refers to parallel operation and interconnection as the thresholds for applicability. The Generating Facility clearly and unequivocally meets the threshold of "parallel operation" required by the South Carolina Standard given that the Generating

Facility is electrically tied to equipment supplied by power from DESC and the power from the Generating Facility will also be used to serve the same load, which results in a confluence of the power supplied by (i) DESC and (ii) the Generating Facility. As a result, if the Generating Facility is placed into operation, it would need to "sync or match" certain specified parameters—like voltage and frequency—of the power supplied by DESC to ensure the reliability of the DESC system and the BATO plant.

These challenges are heightened given that the Generating Facility generates power using intermittent solar power. This means that the power supplied by the Generating Facility can vary wildly, resulting in similarly drastic changes to the power that the BATO facility would require. DESC will be required to quickly increase or decrease its power supply without advanced notice in order to ensure that BATO continues to receive the same reliable service to which it has grown accustomed.

In addition to these concerns, DESC required BATO to install certain protections in order to mitigate the risk that power produced by the Generating Facility—and supplied in confluence with power produced by DESC—does not flow back onto the DESC system. However, even then, the protections implemented by BATO will not entirely prevent such reverse flow—even if momentarily—but would mitigate the duration of any such event. Lastly, and in addition to each of the foregoing potential impacts that the Generating Facility

could have on the DESC system, the Generating Facility could supply fault current into the DESC system, even with these protections in place.

Clearly, these factors indicate that the Generating Facility is operating in parallel as contemplated by the South Carolina Standard, which ensures that the construction and operation of the Generating Facility is done in a safe, reliable manner that does not jeopardize the overall transmission system to which BATO is connected. To be clear, if the Generating Facility's operation is not deemed as "parallel," then it is unclear how many—if any—generators in South Carolina would be subject to the South Carolina Standard given that they contain similar, if not identical, operating characteristics.

**Q. PLEASE BRIEFLY EXPLAIN HOW THE GENERATING FACILITY WILL INTERCONNECT TO THE DESC SYSTEM.**

A. To be clear, the Generating Facility is directly connected with BATO's electric facilities, which are directly connected to the DESC transmission system and receive power from the same. In other words, as discussed above, BATO's load is served from the DESC transmission system. It defies logic for BATO to concede that the facility is connected to the DESC system, but attempt to arbitrarily carve out a portion of the facility (i.e., the Generating Facility) from that connection. That position seems to imply that any generation that BATO, or any similarly-situated facility, adds "behind the meter"—even if it is electrically connected to equipment that receives power from the DESC system—could be

arbitrarily "carved away" from the transmission system to which it is connected and not be deemed as "interconnected" under the South Carolina Standard.

From a technical perspective, the only way the Generating Facility would not be interconnected to the DESC system—aside from disconnecting the entire BATO facility from the DESC system—would be for the Generating Facility to disconnect from all equipment that is electrically connected to the DESC system. However, the Generating Facility is connected with such equipment because BATO takes power from the DESC system. This is further evidenced by the fact that BATO had to install certain protective relays to mitigate the risk that the Generating Facility actually puts power back to the DESC system (i.e., reverse flow). As such, the Generating Facility will be "interconnected" to the DESC system as contemplated by the South Carolina Standard.

**Q. ARE THERE UNIQUE ASPECTS OF THE BATO MANUFACTURING FACILITY THAT COMPOUND THE NEED FOR THE GENERATING FACILITY TO PROCEED THROUGH THE SOUTH CAROLINA STANDARD AND THE STUDY REQUIREMENTS THEREIN?**

A. Yes. BATO requested a more robust method of service than DESC would typically provide to transmission customers. For example, BATO had DESC add a voltage sensing automatic switching scheme on the 115 kV switches. The voltage-sensing automatic-switching scheme allows BATO to be restored automatically in the event of a transmission line outage. As such, DESC will need

to study, among other things, how the addition of the Generating Facility will operate with such equipment.

**Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

A. Yes.